

## **CHROMIUM AND YOU. ARE YOU AT RISK?**

Working with chromium and its inorganic compounds can affect your health. This leaflet tells you about possible health hazards from working with chromium.

### **WHAT IS CHROMIUM?**

Chromium and its compounds form a large and varied group of chemicals, the hazards of which depend on the chemical forms encountered. These are referred to as chromium metal(0) chromium (II), chromium (III), chromium (IV) and chromium (VI). Of these, chromium (VI) compounds have the most significant effects on health.

### **WHERE IS IT FOUND?**

Chromium and its compounds are used or found in many processes and products.

- In the production and use of stainless steel and other chromium alloys.
- In pigments for paint and pottery.
- In wood preservatives.
- In catalysts in the chemical manufacturing industry.
- In the production of dyestuffs.
- In electroplating/anodising.

### **HOW DOES IT GET INTO YOUR BODY?**

- By breathing in dust, fume or mist.
- By skin contact with solutions or solids.
- By eating, drinking or smoking in areas where chromium may be encountered.

### **WHAT ARE THE HEALTH HAZARDS?**

Chromium (VI) compounds (chromates, bichromates, chromic acid) pose the most significant health hazards.

Short-term effects include:

- Irritation and inflammation of the nose and upper respiratory tract.
- Burns to the skin possibly leading to ulcers.
- Eye damage from splashes.

Long-term effects can include:

- Damage to the nose, including ulcers and holes in the flap of tissue separating the nostrils.
- Irritation of the lungs.
- Kidney damage.
- Allergic reactions in the skin and respiratory tract.
- Risk of cancer of the lung and nose from certain processes.

### **WHAT SHOULD YOU DO?**

- Avoid breathing in dust, fume or mist and skin contact.
- Use the extraction equipment or other control measures correctly.
- Use the chemical/mechanical spray suppressants at plating baths where provided.
- Use the protective clothing and equipment provided.
- Use the washing facilities provided which should be adequate and suitable for your needs.

- Use appropriate skin creams.
- If you have to wear a respirator make sure:
  - it fits properly;
  - it is clean;
  - the filter is changed regularly;
  - you have been trained how to use it.
- Wash any affected areas thoroughly without delay if accidental skin or eye contact occurs.
- Report defects in enclosures, extraction equipment or other control measures to your employers.
- Do not eat, drink or smoke in chromium work areas.

### **WHAT ABOUT HEALTH CHECKS?**

- The health of people exposed to dust, fumes or mist from certain forms of chromium and its compounds may require health surveillance by an occupational health nurse or a doctor.
- An initial check should, where appropriate, include details of your past health especially any skin or breathing problems.
- You should cooperate with your employer or works manager in any health checks. You should report any breathing difficulties.
- You should examine your skin regularly and report any skin complaints.

## WHAT ARE THE LEGAL REQUIREMENTS?

The Control of Substances Hazardous to Health Regulations (COSHH) 1999 require your employer to:

- assess the risks to your health;
- prevent your exposure to chromium and its compounds or, where this is not reasonably practicable, adequately control your exposure;
- for chromium (V1) compounds, to reduce your exposure so far as is reasonably practicable and in any case below the maximum exposure limit (MEL) of 0.05mg/m<sup>3</sup> averaged over an 8 hour working day;
- for other chromium compounds, to reduce your exposure to the occupational exposure standard (OES) of 0.5mg/m<sup>3</sup> averaged over an 8 hour day;
- establish the extent of exposure, normally by means of a monitoring programme;
- arrange any appropriate health checks.

Additionally the COSHH Approved Code of Practice *Control of Carcinogenic Substances* applies to:

- strontium chromate, zinc chromates (including zinc potassium chromate), calcium chromate and chromic chromates;
- bichromate manufacture involving the roasting of chromite ore;
- electrolytic chromium processes, excluding passivation, which involve hexavalent chromium compounds.

## WHAT INFORMATION CAN I GET?

Your employer should let you, or your representatives, know:

- the risks to health from the use of chromium;
- the control measures adopted, the reasons for these, and how to use them properly;
- the reasons for personal protective equipment and clothing, and the jobs where these are necessary;
- the results of any tests for chromium levels in the air of your workplace;
- the role of health surveillance and the arrangements for you to know the results;
- any further requirements of the COSHH Regulations.

If you have any worries or problems about working with chromium and its inorganic compounds, ask your supervisor or your safety representative to discuss them with your employer, or discuss them with the doctor.

The Health and Safety Executive has published a Guidance Note EH2 (rev) *Chromium and its inorganic compounds* ISBN 0 7176 1502 2. It is available from HSE Books (Tel: 01787 881165).

This leaflet contains notes on good practice which are not compulsory but which you may find helpful in considering what you need to do.

This publication may be freely reproduced, except for advertising, endorsement or commercial purposes. The information is current at 12/91. Please acknowledge the source as HSE.

CHROMIUM CAN BE DANGEROUS.  
ARE YOU AT RISK?

# CHROMIUM and YOU

